NAME:
NITRIC ACID, <=40%

CAS Registry Number: 7697372

Label: CORROSIVE MATERIAL UN/NA: 1760

NFPA Ratings : Health: 3 Flam: 0 React: 0 Spec: Oxidizer

GENERAL DESCRIPTION:

Nitric acid is a colorless to yellow or red liquid sometimes fuming reddish brown vapors with a suffocating odor. It is soluble in water with release of heat. It is corrosive to metals or tissue. It will accelerate the burning of combustible materials and it may even cause ignition of combustible materials by contact. ((C)AAR, 1986)

FIRE & EXPLOSIVE HAZARD:

Some of these materials may burn but none of them ignite readily. Flammable/poisonous gases may accumulate in tanks and hopper cars. Some of these materials may ignite combustibles (wood, paper, oil, etc.). (DOT, 1984)

FIRE FIGHTING:

Extinguish fire using agent suitable for type of surrounding fire (material itself does not burn or burns with difficulty). Use water in flooding quantities as fog. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. ((C)AAR, 1986)

PROTECTIVE CLOTHING:

Avoid breathing vapors. Keep upwind. Avoid bodily contact with the material. Wear boots, protective gloves, and goggles. Do not handle broken packages without protective equipment. Wash away any material which may have contacted the body with copious amounts of water or soap and water. Wear self-contained breathing apparatus when fighting fires involving this material. If contact with the material anticipated, wear full protective clothing. ((C)AAR, 1986)

SUIT MATERIAL COMPATIBILITY (Based on ACGIH, 1985):

BUTYL	Good Resistance/Limited Data.
CHLOROBUTYL	
CHLOR RUB	
CPE	Good Resistance/Limited Data.
CR 39	
[illegible]/PE	
FEP OR TFE	
HYPALON	
NBR	Good Resistance/Limited Data.
NEOPRENE	Good Resistance/Limited Data.
NEO/RUB	
NEO/SBR	
NITRILE	Good Resistance/Limited Data.

PE	Good Resistance/Limited Data.
POLYCARB	
PU	
PVA	
PVC	Good Resistance/Limited Data.
RUBBER	Good Resistance/Limited Data.
[illegible]B/NEO/NBR	Good Resistance/Limited Data.
[illegible]B/NEO/SBR	
SARANEX	
SBR	Good Resistance/Limited Data.
VITON	Good Resistance/Limited Data.
VITON/NEO	

NONFIRE RESPONSE:

Keep material out of water sources and sewers. Build dikes to contain flow as necessary. Use water spray to knock-down vapors. Neutralize spilled material with crushed limestone, soda ash, or lime. Land spill: Dig a pit, pond, lagoon, holding area to contain liquid or solid material. Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete. Absorb bulk liquid with fly ash or cement powder. Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate. Water spill: Neutralize with agricultural lime (slaked lime), crushed limestone, or sodium bicarbonate. Air spill: Apply water spray or mist to knock down vapors. Vapor knockdown water is corrosive or toxic and should be diked for containment. ((C)AAR, 1986)

HEALTH HAZARDS:

Contact causes burns to skin and eyes. If inhaled, may be harmful. Fire may produce irritating or poisonous gases. Runoff from fire control or dilution water may cause pollution. (DOT, 1984)

FIRST AID:

If this chemical comes in contact with the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. If this chemical comes in contact with the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. If a person breathes in large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Keep the affected person warm and at rest. Get medical attention as soon as possible. If this chemical has been swallowed, get medical attention immediately. (NIOSH, 1987)

FLASH POINT:

LOWER EXPLOSIVE LIMIT:

UPPER EXPLOSIVE LIMIT:

AUTO IGNITION TEMPERATURE:

MELTING POINT:

VAPOR PRESSURE:

VAPOR DENSITY (AIR = 1):

SPECIFIC GRAVITY-LIQUID (H2O=1):

SPECIFIC GRAVITY-SOLID (H2O=1):

BOILING POINT:

MOLECULAR WEIGHT:

IDLH:
100 ppm For fuming nitric acid. (NIOSH, 1987)

TLV - TIME WEIGHTED AVERAGE:
2 ppm For fuming nitric acid. ((C)ACGIH, 1986)

TLV - SHORT TERM EXPOSURE LIMIT:
4 ppm For fuming nitric acid. ((C)ACGIH, 1986)